

Total Retropubic Prostatectomy

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■ *Results in 96 patients who had total retropubic prostatectomy were reviewed. The most common complications were impotence and difficulty with urinary control. The most serious were rectal injury and vesical neck contracture. Twenty-eight of 33 patients who were followed for five years after operation and eight of twelve who were followed for ten years were alive without evidence of recurrence of cancer. Evidence of recurrence was found only in patients in whom cancer had spread beyond the parenchyma of the prostate before operation. There were no operative deaths.*

FOR THE PATIENT with early prostatic carcinoma, we are without definite evidence for the superiority of any one method of treatment. The wide variation in survival with this disease, treated or untreated, makes evaluation of different types of treatment difficult. Conscious and unconscious selection of cases tends to make comparison of survival in reported series uncertain.

It is doubtful that unanimity of opinion can be reached until such time as a large number of similar patients, some treated surgically, some with hormones, and some with radiation, are followed for perhaps 15 or 20 years. In the meantime, it has been our belief that patients with localized prostatic cancer are better off having that cancer removed surgically, provided the hazards and complications of operation are not too great.

We reviewed the records of all the 96 private patients upon whom we had done total prostatectomy, to determine the extent of those hazards and complications and to judge whether the results justified the complications.

The average age of patients was 62.4 years; the youngest was 50, the oldest 73. We considered patients over 65 years for operation only when they were in better physical condition than the average person in the age group.

Diagnosis was made by needle biopsy, percutaneously, in 75 of the 96 patients. In 71 of the 75 cases one biopsy sufficed for diagnosis.

Twenty-one patients first had transurethral resection. In 16 of them, the diagnosis of carcinoma was not suspected until the tissue was examined histologically. In such cases we review the histologic picture carefully with the pathologist. If the lesion is grade I in degree of differentiation and seems to be well localized, without invasion, total prostatectomy is not considered. If the carcinoma is more active than grade I or is found in more than one localized area or is invasive, the patient is a candidate for ablative operation. This distinction is our attempt to distinguish the lethal from the indolent in these so-called occult carcinomas. In only one of the 16 patients was there evidence of recurrence after operation. We follow Goodwin's¹ method of staging these tumors (Table 1). With the exception of the 16 with occult carcinoma, we believed before operation in all cases that the tumor was a localized nodule (Stage A) or con-

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fined to a localized area of the parenchyma of one lobe (Stage B). All patients were given estrogen therapy as soon as the diagnosis was made. In four patients a lesion thought possibly to involve the capsule (Stage C) responded so well to estrogens that it became a Stage A or Stage B as appraised by digital examination. These four patients were operated upon and are included in the series. None of them had recurrence.

In general, the extent of the carcinoma found at operation tended to be greater than expected from preoperative evaluation. In 55 of the 96 patients the neoplasm was staged at least one stage higher by the pathologist than at the time diagnosis was made, indicating perhaps both the insidious nature of this tumor and optimism on the part of the surgeon. All of the recurrences in the series, however, were in cases in which the lesion was Stage C as classified by postoperative specimen examination.

In eight cases no evidence of carcinoma could be found in the surgical specimen, and in none of these cases has evidence of carcinoma developed since. Six of the eight patients previously had had transurethral resection. Both of the other two had only perineal needle biopsy before operation, and both had received estrogen therapy, one of them for one month and the other for five months before the ablative procedure. In both cases squamous metaplasia was noted on examination of the operative specimen.

TABLE 1.—Description of Tumors by Stages (Goodwin¹)

Stage	Description by Stage	Number of Patients	
		Original	Post-operative
O	Occult	16	8
A	Isolated nodule	30	9
B	Local spread, within prostate	46	49
C	Local extension, capsule and/or seminal vesicle	4	30
D	Metastases	0	0

The operations, essentially a standard retropubic prostatoseminovesiculectomy, were done through a mid-line vertical incision. The puboprostatic ligament was carefully ligated before division to reduce venous bleeding. To facilitate approximating the vesical neck and membranous urethra, Vest² sutures were utilized to anchor the bladder down to the perineum. In most patients direct anastomosis was not attempted. The urethral catheter was removed between the seventh to the tenth day and the perineal sutures were cut on the tenth day. The average hospital stay for all patients was 14.7 days.

Orchiectomy was done at the time of operation in 54 cases, and at a later date in four cases. Sometimes orchiectomy was dictated by findings at operation; at other times the philosophy of the individual surgeon determined whether or not orchiectomy should be done. Similarly, estrogen therapy was given postoperatively for varying periods to about half the patients. For these reasons, this report is not strictly speaking a "surgical series"; it is probable the orchiectomy and estrogen therapy extended the lives of patients who had carcinoma left behind after the operation.

Results

Operation was done more than five years ago in 44 cases. Nine of the patients (eight of whom were clinically free of cancer when last seen) have been lost to follow-up. Three have died with cancer, three without. One is alive with known cancer. Thus, of 33 patients who have been followed five years or until cancer was detected, 28 are alive with no evidence of cancer.

In 25 cases more than ten years has passed since operation. Eleven of the patients (ten of whom were clinically free of cancer when last seen) have been lost to follow-up. Three have died of cancer, three without. Thus, of the 12 patients who were followed for ten years or until cancer was detected, eight are alive with no evidence of cancer.

TABLE 2.—*Postoperative Complications in 96 Cases of Total Retropubic Prostatectomy*

<i>Description of Complication</i>	<i>Number</i>
No Complications	60
Vesical Neck Contracture	14
Requiring dilatation	7
Requiring incision or excision	7
With calculus	3
Phlebitis:	8
With pulmonary embolus	3
Without pulmonary embolus	5
Rectal Injury:	4
Primary cloture	2
Secondary cloture	1
Multiple operations to close	1
Post-Operative Oliguria	3
Wound Infection	2
Myocardial Infarction	1
Hepatitis	1
Osteitis Pubis	1
Obturator Paresis, Temporary	1
Post-Operative Hemorrhage, Delayed	1

There were no operative deaths. The shortest period between operation and death was 26 months.

Complications

There was a significant number of complications (Table 2). All patients were sexually impotent after operation. Only 44 of the 96 have achieved perfect urinary control. Another 45, however, have sufficiently good control that they wear no device or protective pads. Five, however, must wear a device of some sort during the day and two patients describe their control as nil.

Excluding incontinence and impotence, 60 patients have been free of complications. Complications in the others are described in Table 2.

In four patients the rectal wall was pierced at the time of dissection of the prostate from the rectum. In two patients injury to the rectal wall was noted at the time of operation and was repaired without colostomy and without postoperative morbidity. In another, the injury was noted on the second postoperative day, whereupon the wound was opened, the urethra and bladder were separated, the rectal wall was closed and the bladder was again brought down to the membranous urethra. Colostomy and cystostomy were done. No further problems occurred and the colostomy was later closed. In the fourth case of rectal injury, the tear was noted at operation and with the assistance of a general surgeon repair was attempted without colostomy, but rectovesical fistula developed and colostomy was then carried out. Two subsequent

attempts by the perineal route were necessary before closure of the fistula was accomplished. This was followed by a perineal incisional hernia which required still another operation for repair. Today the patient is well and without evidence of recurrence.

In three of the four cases of rectal injury, the neoplasm had invaded the capsule. No rectal injuries have occurred in the past three years.

Excess cicatricial tissue formation at the vesical neck, resulting in stricture, was a problem in 14 patients. In one patient suprapubic transvesical excision, and in six a Collings knife transurethral incision were necessary. In the remaining seven, occasional dilatation with urethral sounds has been adequate. In three cases stones formed in the vesical neck or in the membranous urethra and had to be removed cystoscopically. We have been unable to determine why excessive cicatricial tissue develops in some cases and not in others.

The oliguria that developed in three patients was interesting in that it was not accompanied by or preceded by recognized shock, excessive loss of blood dehydration or third compartment formation. It abated spontaneously, beginning on the third postoperative day, with gradual increase in urinary output thereafter. Presumably it was due to edema of the ureteral orifices.

Comment

Until clear-cut evidence is available to indicate conclusively which means of treatment preserves the most useful years of living with the least cost in money and morbidity, choice of treatment for the patient with early carcinoma of the prostate must remain somewhat philosophical. The urologist must decide whether the danger, morbidity, inconvenience and expense of operation are justified by a reasonable increase in the patient's chances of living without prostatic cancer. We believe the results justify further surgical treatment of selected patients with early prostatic carcinoma. The fact that evidence of recurrence was found only when cancer had spread beyond the parenchyma of the prostate before operation justifies the continued use of strict standards of selection of patients.

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